

THE SANITARY BRACE.

A Simple Mechanical Invention,

Intended to force the Closure of the Mouth during Sleep, and thereby absolutely compel the Nose to perform all that Nature designed in the act of Breathing.

PATENTED BY F. PINCKARD, OF NEW ORLEANS.

DECEMBER 15th, 1868.

“When God created man, He breathed into his nostrils the breath of life.”

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PREFACE.

The subject of the following pages is exactly what the title page purports, and the inventor of the Sanitary Brace contends that the substitution of the mouth for the nose in the act of breathing has been and is in many ways injurious to the human system, and that any sanitive remedy calculated to force these refractory organs into the performance of their natural functions will as a consequence tend to the following results.

1st.—To rid us in a great measure of the annoyance and injurious effects of snoring.

2d.—To moderate if not wholly prevent, attacks of nightmare.

3d. To free us entirely from dryness of tongue and palate during sleep.

4th.—To aid digestion by protecting the necessary secretions during sleep.

5th.—To lessen the number and intensity of lung and throat complaints.

6th.—To afford a valuable protection against bad colds.

7th.—To guard the unconscious sleeper against malarious fevers, or fevers provoked by infected atmosphere.

8th.—To act as a barrier to the approach of such epidemics as are propagated by poisonous germs contained in the air.

9th.—To moderate all nervous diseases by promoting quiet slumber.

10th.—To deprive night of its supremacy in inciting and intensifying disease.

And all by the simple means of correcting that *vagary* of nature which has caused man alone of all the animal creation, to substitute the mouth for the nose as a vehicle for the breath during sleep.

The reader will see that *ten* reasons are given (all of great im-

portance) for the use of the simple remedy here offered for the criticism and experiments of the public, and the involuntary decision will probably be that too much is claimed for this invention.

The answer is, that such a verdict may be just, but on which of the ten will the caviller place his finger and say "this is preposterous?" And who among them will, say that there is no virtue in the invention as regards any of the ten? And if there be even a possibility of preventing, or curing, or even palliating *any* of these maladies, will the medical fraternity take the responsibility of refusing to winnow the wheat from the chaff and ascertain wherein the Sanitary Brace can be of service to suffering humanity?

The inventor of the Brace disavows any dogmatism in the ten suggestions he has made. Many of them he has had no means of verifying, and claims the probability of cure or amelioration by inference, derived from the miasmatic and atmospheric theories so industriously disseminated by learned writers on such subjects. If these theories are well founded, he thinks his inferences are by no means presumptuous, and if they are, he challenges the proofs and will do all in his power to assist in arriving at the truth.

THE AUTHOR.

THE SANITARY BRACE.

This name is selected because of its *general* application and consequent suitability for a remedy intended to palliate or prevent *many* of the numerous ills that "flesh is heir to" and not a single one or even class of diseases.

The idea (of the Brace) originated in the inventor's mind after long suffering from nervous restlessness, occasioned by the proximity of fellow-lodgers who snored terribly. And when these involuntary persecutors learned my distress they shocked me by information I had never dreamed of—that I was myself a snorer.

Reflecting on this information, and desiring anxiously to rid myself of an evil which must be so disagreeable to my friends who slept adjacently, and also hoping to free myself of the martyrdom inflicted by them on me, I, after much study and many experiments, at length succeeded in partially perfecting a rude Brace which I have secretly used at intervals for more than eighteen months. And why secretly? For the very poor reason that I dreaded ridicule for attempting an invention which if practicable should long since have been perfected by those gifted with mechanical genius and not left for accomplishment to one so notoriously meagre in this branch of the arts as myself.

Having at length become fully convinced that I have derived great benefit from the use of my invention, in many ways, and not thinking it probable that my case will prove exceptional, I have concluded to divulge my secret and ask the assistance of competent persons in testing its merits, not only on others similarly afflicted with myself, but who may have maladies to which I am not subject, the nature of which may suggest my invention as a possible preventive, or cure, or palliative.

As related, the idea of the Brace originated solely in the hope

of preventing, or at least moderating snoring. And in connection with this, I will mention that I had long believed this vagary of nature was not only an intolerable nuisance to auditors, but a serious injury to performers. With this view some concurred while others demurred. The use of the Brace and the observations my study of the subject have elicited, all tend to corroborate the opinion I had formed—and also to prove—that while snoring is of itself damaging to the system, it is associated with and probably a consequence of a habit which is the parent of a progeny of evils less demonstrative but *far more injurious than snoring*—that of sleeping on the back with the mouth wholly or partially agape, and breathing through this unnatural channel. The proofs of unnaturalness are—that we do not thus breathe when awake, and to do so is laborious and unpleasant;—that the most placid sleepers rest with closed lips, and their slumber is more refreshing;—that none of the brute creation sleep thus, not even the dog species, whose deficiency in perspiratory ducts leads to the substitution of the mouth very frequently when awake, but *never* when sleeping. And apropos of the dog—may not the free flow of saliva from the mouth, when breathing from that organ, wash away deleterious substances that the air would otherwise deposit in the open cavity? In fine, is it not probable that were men and other animals (unprovided with this safe-guard) to use the mouth instead of the nose *for day breathing*, they would subject themselves to danger from air deposits? It is said that the learned philosopher, Kant, so thought, and acted upon it. And if these dangers are to be guarded against during the day, when the atmosphere is comparatively pure and the system active and repellant, how much greater the necessity during noxious exhalations of the night, when our relaxed organism is peculiarly impressible.

My first attempt at manufacturing a Brace was from an old pair of suspenders, the parts of which I braced beneath my chin and over my head in all conceivable positions, until I found one that would bind equally and retain its place steadily; and when I had firmly sewed the straps in their proper places it proved a decided success, so far as to close the jaws firmly, but leaving the flexible lips too much play as will be presently explained.

At the time my whole system was deranged by chronic chills and fevers of more than a year's standing—and the very first night's use of the Brace put an immediate stop to a serious aggravation of this disease (a dry parched mouth) with which I had suffered every night—and which I here declare I never have experienced from that time to this, whether sick or well, when using the Brace. And I moreover give my opinion that a closed *and* dry mouth are incompatible and opposed to the law of secretions. This affliction I mention as one of the silent evils attendant on open-mouthed snoring which is more injurious (to the patient) than its more boisterous companion. I particularly specify open-mouthed performers, because there is another class who emit various sounds from a scarcely perceptible orifice—sometimes like puffs from a miniature steam engine—then blowing as we do to cool soup;—these may not be subject to parched palate and tongue.

Another distressing affliction to which I have been for many years subject, is the night-mare; often have my friends aroused me when I would seem to be struggling for very life; and they would insist on the trouble having originated in heavy suppers, or smoking, or some other imprudence; but my experience taught me that abstemiousness was no certain safeguard. I am now satisfied that the nightmare will rarely invade the human system by any other avenue than an open mouth—and never once have I experienced it when guarded by my Brace—and for more than eighteen months I have used it more than four-fifths of the time—and frequently after heavy suppers, smoking, etc. The strongest proof is, that during that period I have several times suffered intensely from nightmare when the desire of concealment (until I should fully test its virtues) have caused me temporarily to abandon the use of the Brace. In this connection I will introduce an extract from my journal of June 11th, 1868:

“I have related that the use of the Brace had protected me against the visits of a most fearful malady—the nightmare—and now I have to say that last night its efficacy was clearly proven by induction; for after a hearty supper I went to bed, and the weather being very warm I delayed putting on my brace, intending to do so before going to sleep, but the drowsy god conquered and I neglected it. The consequence was, that at midnight I had such a terrible visitation that I aroused the household, and the

young man who sleeps near me sprang out of bed and came to my relief. I found myself on my back, with mouth open,— palate, tongue and lips dry and parched, and my whole nervous system deranged by the violent attack. Formerly, under such circumstances, I have had to remain awake for some time, until the nerves became quieted, to prevent a recurrence. But on this occasion I immediately donned the brace, and in five minutes was sound asleep. and awoke this morning with quiet nerves, moist mouth, and good appetite. This is absolutely the only attack of nightmare I have had since I first manufactured the brace more than twelve months ago, and in my mind there is no doubt of its entire efficacy against this distressing malady, so far as my system is concerned.”

I am very sensitive to cold, and every winter for many years (until the last two) I have been subject to what are familiarly called bad colds, for which the usual remedies afford but little relief. My brace has closed the principal avenue of this enemy’s approach, and thus far (for eighteen months) I have entirely escaped. In this connection I will copy verbatim a record made April 7th, 1868 :

“Yesterday morning was warm and pleasant, but early in the afternoon, clouds gathered, and the streets were deluged by long continued rain accompanied by violent wind, which blew down signs, and vessels from their moorings, and was what sailors would call a stiff gale. During its height I was winding through the streets in a railroad car, and at the terminus, in passing on foot from one car to another, the water was half leg deep and filled my boots while the rain deluged my upper garments. I now thought my old enemy, a bad cold, would surely ensue, particularly as the weather became twenty degrees colder by bedtime, before which period I felt the premonitions I dreaded. It was however inconvenient to take the precaution of a hot foot-bath or indeed anything, except putting on the brace and drawing it tighter than usual. My throat and nostrils, soon after retiring, gave signs of accumulating phlegm and mucus, and there seemed a necessity for throwing off the brace, to give free vent to the breath and facilities for expectorating. I determined to resist the impulse and force the nose to perform all its functions; and as the obstructions gathered I forced them through the nostrils and made the breath free itself a passage, until in a short time there was no effort required. I afterwards slept as soundly as an infant, and awoke this morning with my throat and nostrils entirely free of obstructions. And now (at noon) I feel as free of cold as I did yesterday at noon. There was one thing I observed in my struggles to conquer impediments to breathing which may be of interest: When I lay on my right side the left nostril would directly free itself and the right become closed; and when I turned on my left

side the reverse would directly ensue. And by making frequent changes in posture, in a short time both nostrils were equally freed from obstructions."

Speaking of bad colds, I would ask sufferers if they have not found the nose choked up of mornings with hardened mucus, requiring much picking and blowing to clear the orifice and fit it for day breathing? And is it not clear that this impediment is occasioned by accumulations hourly increasing while asleep and breathing from the mouth? Let them use the Brace and keep the mouth closed, and the natural flow of the breath through the nostrils will keep them in healthful exercise and free from accumulations.

For years I have been subject, during cool spells, to deposits at the junction of the nostrils and throat, which would harden and become very troublesome, until a sneeze or cough at the right time would expel the tenacious *frog*, and give instantaneous and very grateful relief. Since I adopted the use of the Brace I have been almost wholly relieved from frogs, which were my almost daily companions before.

My experience convinces me that a great many persons (and myself among the number) who are subject to nervous restlessness, depriving them of sleep, will be in a great measure relieved by the use of the brace,—for the reason that a firmly closed mouth gives confidence and serves to quiet the nerves until sleep ensues; and then nightmare, snoring and dryness of mouth being barred out, the quietude of slumber is not disturbed during the night.

In regard to snoring, I can say of myself, that I have been informed by fellow-lodgers in adjoining rooms (who were formerly my victims and who have never heard or thought of my remedy) that I very rarely snore of late, and when I do it is in a subdued tone—all of which they cannot account for. I am satisfied that the improvement is wholly owing to the use of the Brace, and that the cure is not *perfect* may be attributed to different causes, the chief being the chronic nature of the disease in my case, leading to a constant struggle for indulgence—through a loosened brace, a flexile lip or a sonorous nose. In the great majority of cases I am fully convinced that a perfectly fitting Brace, capable of hermetically sealing the lips, will effectually prevent snoring or

even audible breathing. Such incorrigible cases (and I am satisfied there are such) as snore through the nose without the intervention of the mouth, would, of course, not be silenced by the Brace. But concerning this whole subject of snoring, I wish it distinctly understood that I claim for the Brace much more important and absolute functions than the relief it affords in this very annoying malady.

I remarked, in the early part of my experiences, that the first Brace I made was fully competent to firmly close the jaws, but left the flexile lips too much freedom. This I afterwards remedied by adding a narrow elastic strap directly across the under lip, longitudinally, and connecting with the two jaw straps. This did away with the necessity of compressing the jaws uncomfortably—the sealing of the lips being all in fact that is required to exclude the breath from the mouth; and the lips being very pliable it does not require much pressure to keep them together, as a gentle application of the thumb and fore-finger to your own lips will prove the moment you read this.

From my journal June 15th, 1868:

“It is not well to claim too much in proselyting (vide the Missionary and the Indian,) but hit or miss I will give my experiences regarding the Brace: and I have now to say that the restlessness at night, followed by bad taste in the mouth and fulness of stomach and want of appetite, which formerly followed late suppers, is no longer a consequence of such indulgence; and I can think of no reason for the immunity other than that a closed mouth promotes secretions and aids the digestive organs. I partook of a heavy meat supper last night, and went immediately to bed, and I feel no bad effects this morning and felt none during the night.”

I have enumerated the several afflictions to which my system is subject, which have been either wholly conquered or greatly modified by this simple, cheap and wholly inoffensive remedy. May there not be many others to which I am not subject that can be cured or greatly relieved by its use? May not lung complaints in many cases make their first attacks on the citadel through an open mouth? and Asthma, Croup, Pneumonia, Diphtheria and all diseases of the throat and chest? And when these diseases are seated may they not be greatly alleviated by the use of the Brace—by preventing the continued flow of raw air through

the mouth, which first produced the disease? How many nauseous drugs are consumed in trying to arrest these diseases! and can it be that this remedy will not be fully and fairly tested, if it be even *possible* that it will tend to the relief of suffering humanity?

There is a theory of the transmission of certain diseases by atmospheric animalcules and infusoria; it being contended by some, I believe, that Cholera is thus propagated, and Diphtheria and infectious fevers; and I have read an able treatise claiming that the dreaded yellow fever is thus introduced and disseminated. And if all or any of this be true, the reader may ask how this evil will be remedied by the use of the Brace? My reading is very limited on such subjects, but I will introduce some extracts which I think illustrative: In a late number (April) of the New Orleans Journal of Medicine, I find an article headed—"ILLUSTRATIONS OF THE ANTISEPTIC TREATMENT IN SURGERY: By JOS. LESTER, F. R. S., *Professor of Surgery in the University of Glasgow.*" This writer contends that by surgical experiments it is proven that exposure of wounds to the air in its natural temperature tends speedily to mortification, when by its expulsion, or its rarification, they readily heal. And this is most observable in malarious districts, or crowded cities or hospitals, where the air is burdened with impurities. He says: "Some even go so far as to say that it has further been shown, and this is particularly striking, that the atmosphere is deprived of its power of producing decomposition as well as organic growth, by merely passing in a very gentle stream through a narrow and tortuous tube of glass, which, while it arrests all its solid particles, cannot possibly have any effect on its gases." Now, substitute "the narrow tortuous tubes" of the nose for those of glass and the similitude is plain. And compare the exposed tender membranes of the mouth to an unprotected wound, and in a lesser degree you may again see the applicability. Then add to the tortuous passages of the nose their natural warmth (calculated to rarify the raw air) and their coating of hair (adapted to "arrest all its solid particles") and you will find that nature has provided a better protection than art could do, if nature be *forced* to perform its proper function of breathing through the nose. And let any one put on a well fitting Brace and the requisite force will be at once acknowledged.

In the same number of the New Orleans Journal of Medicine, I find an article headed—"OBSERVATIONS ON DIPHTHERIA: *By* DR. H. D. SCHMIDT, *of New Orleans,*" in which is narrated some interesting microscopical examinations of patches of false membrane taken from the tongue of his patient, and also of sediment deposited by the atmosphere in a glass of cistern water, that had been boiled and was exposed on a high post in the adjacent garden. The minute animalcules and fungi in both being identical, it is to be presumed that the disease either originated, or was greatly aggravated, by atmospheric inhalations. The question then is, whether these inhalations would have proved innocuous if the nose had been the means of transmission instead of the mouth? This might be plainly demonstrated by the use of the Brace in some locality where diphtheria prevails, and might possibly prevent its becoming epidemic, as it sometimes does. The Dr.'s patient resided in a region adjacent to New Orleans, which has always been considered as peculiarly abounding in malaria, owing to the abundance of surrounding organic causes, and he narrates that the several members of the family of his patient were prostrated in rapid succession with typhoid and intermittent fever, and all probably caused by the malarious air they breathed. And if so, is it not possible that the air might have been deprived of its power to harm by a timely use of the Brace? thus saving the other members from great suffering and danger.

Physicians, I believe, agree that most diseases are contracted at night, and in their progress are more aggravated during the night than the day. This is probably owing to two causes: First, the increased impurity of the air at that period; and, secondly, its inhalation by the mouth when asleep—thus distributing its poison over an enlarged surface of unprotected sensitive membrane, and reaching the throat and lungs before it is properly sifted, warmed and purified in its passage.

There are two distinct classes of persons, those who habitually rest on the side and sleep with closed lips, and those who mostly lie on the back with mouths wholly or partially open. It would be important to know if the former are more exempt than the latter from the maladies I have enumerated. We *know* that in the malady of snoring such is the case, because our attention is

constantly and *audibly* and visibly called to the fact. We also know that of parties of persons who undergo together the same vicissitudes of diet, shelter and exposure to malaria, some escape while others contract the diseases supposed to be consequent on the situation. Now, if it can be proven that those who sleep with closed lips are most exempt, it will be a powerful argument in favor of the Brace.

The Creoles of Louisiana close their windows and doors at night and swelter in the heat, to avoid *swallowing* the poison contained in the night air. What a relief it would be to welcome the cool breeze to their *nostrils*, and through their tortuous purifying channels deprive it of its power to harm?

Physiognomists will tell you that a firmly closed mouth is indicative of courage, while habitual loose jaws and parted lips denote indecision and timidity. And when the latter pluck up courage for an attack, they first clench the teeth and compress the lips, and while the spasm lasts there is danger; but the moment the jaws relax and the lips part, pitch in with a vim and your opponent will cry for quarter. And this is why the most courageous are subject to fits of despondency when aroused from open mouthed, exhausting slumbers. By using the Brace the same courage will be exhibited at night as during the day.

Many defects of nature are relieved by art, until a second nature is adopted, and the remedy no longer needed. Thus, the irresolute, loose-jawed child, by having the jaws compressed at night with the Brace, may soon acquire the habit of keeping them closed during the day, when, in fact, the natural tendency is to do so if not counteracted by the bad habit acquired during the relaxation of the muscles attendant on sleep.

It is a humane provision of Providence, that the severest afflictions lose their poignancy by their perpetual presence, until we are not sensible of the extent of our sufferings until relieved for a time by some antidote, and afterward their recurrence unveils the magnitude of the evil, and the sufferer eagerly resorts again to the remedy. Thus it is with the Brace—the first use of it feels a little unnatural and confining, and before it becomes as easy as a night-cap the patient may be induced to throw it aside; but if he has used it long enough to learn its value, how gladly will he

resume its use when his afflictions return with renewed intensity ?

I believe it is generally conceded by physicians that it is better to rest on the side than the back ; affording more refreshment and greater tranquility ; giving more freedom to the lungs and expansion to the nostrils. My experience corroborates this, and my use of the Brace proves that it tends to that desirable result ; for the reason that the back posture is generally accompanied by an open mouth—and this not being possible when wearing the Brace, the sleeper, after a few struggles for freedom (or rather license,) involuntarily turns on the side and enjoys quiet slumber ; and in the course of time the good *habit* supercedes the bad one.

Many persons who relish the siesta after dinner, are very guarded in excluding the grateful breeze which would enhance their pleasure, for fear of taking colds. Others ridicule this idea and court the breeze, and escape the cold. How is this ? May it not be that the sensitive ones are those that breathe through the mouth in sleep, and the impervious ones those who indulge with closed lips ? I do not know, but I think so ; and I have in mind some plethoric friends who are awful snorers, and who are as fearful of a breeze as a mad dog of water.

My first acquaintance with yellow fever was many years ago at Vicksburg, Natchez and other river towns ; and I remember that notwithstanding the dread felt by the country people, there were many of them who feared not to come to the towns during the day, when nothing could induce them to remain all night. This was the result of experience, which had proven the far greater liability to contract the disease at night. And why ? Because the night air is most burdened with poison ? Doubtless true ; but may it not be added that during sleep much of this malaria is inhaled by the unprotected mouth, while day breathing is done almost wholly through the nose, which nature has provided with sentinels to arrest all enemies, and suffer only friends to approach the citadel of life ?

I believe, that after hundreds of volumes being written and thousands of experiments made, it is at length believed generally that *cholera* is transmitted from place to place by *substances* in the

atmosphere. And I am told the belief is daily gaining ground that very many other diseases originate in germs contained in the air. If this theory be well founded, what great good is to be derived from the knowledge, unless some *mechanical* means can be discovered to guard against this physical evil? It is true that drainage may do much in some diseases, but there are others that have devastated the driest and healthiest spots on earth. How are you to combat with these? The air is too subtle and all pervading to be disinfected, except very partially. The truth is, that thus far, there has been found no means of warding off the worst maladies that the human system is subject to. But there are philosophers and christians who believe that Providence has provided antidotes and remedies for all poisons and diseases, leaving to the ingenuity and perseverance of man the task of making discoveries. And very many have been made, and among them the invisible secrets of the air we breathe. It is ascertained that it contains the seeds of death! If we breathe it (seeds included) we die; and if we refuse to breathe we die. How are we to escape death from this cause? Simply by breathing through the seive which nature has provided—thus emasculating the air. I, who claim to have accidently stumbled on an antidote against infected air, feel daily astonished that so simple and efficacious a remedy should have been wholly overlooked for so many centuries.

The celebrated Dr. Marshall Hall advises all persons on leaving a warm room to keep the *mouth closed* till they have caused the blood to circulate freely—which is to prevent cold air from entering the lungs, and to cause it to pass through the winding meatuses of the nose, and to become warm before serving the purposes of oxygenating the blood. Now, if this precaution is advisable in the day time, when the natural tendency is to keep the mouth closed, how much more necessary is it of cold nights, when thousands retire from warm fires to sleep in cold rooms, with open mouths! And here let it be remarked that this opens a new field for the services of the Brace, inasmuch as Doctor Hall's precaution is not intended to exclude malaria or poisonous substances contained in the air, but simply to rarify and warm the air *before entering the lungs*. If this theory be cor-

rect (and he has high reputation), is it not clear that the qualities of the Brace ought to be fully tested, to find if it is a preventive of lung and throat diseases? And even when these diseases are in progress may it not be that the continued renewal of the cause may aggravate and increase the effect? And may not the use of the Brace in a great degree neutralize the cause?

Imagine the philosopher Kant, genial and social in his habits, yet daily taking his solitary walk in the open air—refusing companionship that he might not have to converse and inhale *through the mouth* the poison or the dampness which he believed the air contained. Then follow him to his resting place at night, and see him on his back, with mouth open, gulping down the miasma, or the cool air, which he abhorred. Is it not astonishing that he failed to imagine a simple mechanical means of forcing the nose to perform its proper function of breathing, which he clearly believed was all that was required to deprive the air of its noxious qualities? And the thousands of others who have written and thought on this subject—is it not strange that no one of them ever acted or wrote as though they believed there could be any mechanical means of avoiding the evil, the existence of which was a settled fact? However, may not the very means I claim to have discovered, been thought of and acted on and found to be fallacious? I answer that several learned physicians have told me that they have examined all treatises on the subject, within their reach, both ancient and modern, and found no allusion to the possibility of a mechanical remedy. I therefore regard it as an accidental oversight, and that mine is an invention which has never been tested, and its merits or demerits ascertained. This being the probability, and learned men with whom I have conversed having declared themselves convinced of the capacity of the Brace to *force* the closure of the mouth during sleep, and thereby test the merits or demerits of nasal breathing, and very probably test the *theory* of injurious inhalations of substances contained in the air—and with one consent admitting vast benefits to the human race from its use *if* the theory be true, and *if* the nose be really adapted to arrest impurities and properly warm and prepare the atmosphere for the use of the lungs—I ask of the medical faculty their serious consideration of the subject,

and their assistance in ascertaining the real value or worthlessness of the invention I lay before them.

Without their aid it will be a very difficult task for me to find patients who will adopt the novel remedy, and still more difficult to decide on the gradual improvement, or the reverse, that may ensue. But with the practising physician there will be no such obstacles.

If the theory of noxious inhalations be false and the brace instrumental in detecting the base coin my labors will not have been in vain. And if the theory be true and it be proven that the increased volume of inhalations, and the increased surface of membrane exposed to the poison through an open mouth causes no increase of danger, it may be well to aid in establishing the principle that an increase of cause does not necessarily increase effect. But if, on the other hand, the theory be true and the natural deductions established that the increased volume of poisonous inhalation over any increased surface is injurious to the human system, then will an examination of the Brace prove to *any one* that its use will at least lessen the danger. And if the remarkable structure of the winding channels of the nose and their coating of *tremulous hairs* be really designed to arrest hostile intruders and *temper* the air for the use of the lungs, then will it be plain that the Brace will not only serve to lessen the quantity of poison inhaled, but also to deprive (at least measurably) the residue of its virulence.

I have received a very flattering letter from a learned medical friend who compares the probable working of the Brace with Sir Humphrey Davy's Safety lamp, saying that nature has provided the nose with a seive to exclude malaria and infusoria as the Lamp is provided with guage wire to exclude inflammable air; If a rent occurs in the wire the miner is exposed to more immediate but not more certain danger than that of the unconscious sleeper with open mouth.

It is said that the wearing of mustache is serviceable in arresting foreign substances contained in the air, and that actual proofs have been elicited of the greater impunity in malarious districts of those who foster these appendages. If so there could be no clearer test of the value of the Brace and in a much greater degree.

I think it is a fallacy indulged by many persons who do not snore, that they consequently sleep always with closed lips; I have seen many examples to the contrary, and believe there are very few who do not during some period of the night breathe through the mouth.

With my ignorance of medical authorities and discoveries, it is with extreme diffidence that I intrude my crude suggestions on the medical faculty. My excuse is that the remedy is a novelty which, so far as I can learn, has never been tried or canvassed by any one but myself; and a proof that I have not presumptuously and hastily arrived at conclusions, is that I have perseveringly used the Brace for more than eighteen months, during which time I have unexpectedly been relieved of many maladies to which I was subject, whereas I only anticipated partial relief in one and that the least serious. And until lately I kept my discovery a profound secret, that I might first satisfy myself that the relief was not imaginary, but real and owing to the use of the Brace.

The maladies to which I am not subject and to which I have called attention, have suggested themselves to my mind by inference, and the medical faculty may have data by which they can at once authoritatively contradict these inferences. For example I have suggested that the Brace may be a valuable preventive in lung and throat complaints, and that when the diseases are seated it may prove a paliative, but some medical gentlemen with whom I have consulted, while they admit the possibility of its value as a preventive, contend that it will be injurious during their progress, particularly in cases of consumption,—saying that patients desire and need all the air they can possibly inhale for expansion of the lungs. But this may have been a hasty conclusion, for if the lungs and throat have contracted turbercles and ulcers am I wrong in comparing these with the wounds of the body, which Prof. Lester says are so greatly benefitted by the *Antiseptic Treatment in Surgery*? And if the sugar-house treatment in consumption be really beneficial, is it not because a saccharine atmosphere is disinfected, or deprived of the raw chilliness which may tend to increase the disease? and may not the sole use of the nose in breathing have equal influence on the air and more uniformly? I

believe that consumptive patients *crave* all the air they can inhale; but do not fever patient frequently crave more water and ice than the nature of their complaints require. Moreover, consumptive patients do not breathe through the mouth when awake I believe, and if it be beneficial for them to do so, there should be invented some mechanical means of compulsion. But I fully believe that the use of the mouth in breathing is a bad *habit*, night or day. It is, however, suggested that the use of the brace will be too confining and annoying to consumptive patients. I answer that as soon as I can procure proper materials (which are not in this market) I can have Braces constructed of such degree of elasticity, that they will in no wise obstruct coughing and expectorating, at the same time having sufficient spring to close the mouth after each paroxysm; and it may be that this will prevent their frequent recurrence. Any observer will be convinced of the feasibility of such manufacture by examining the imperfect Braces I have thus far been able to improvise, and which can be greatly improved in many ways.

The Braces I have are by no means formidable incumbrances, as all will understand when I state that some are made of linen and some of silk ribbon, combined with elastic straps; and they will weigh less than one ounce each, and can be put on and off as easily as a night cap, and are no more confining or annoying to the wearer.

The winter season will, doubtless, be the most favorable period for testing the Brace, and introducing it to the public; for the reason that during the hot nights of summer even a night-cap would feel uncomfortable to the unaccustomed wearer, when the very reverse would be the case during cold winter nights. Moreover, it is in winter that the Brace is expected to prove beneficial in the greatest number of maladies; yet any one accustomed to its use and benefitted thereby, will thereafter rarely dispense with it in summer or winter, until nature throws off the yoke of habit, and the nose performs its duty during sleep.

I have had encouraging letters from eminent physicians, speaking in the very highest terms of the advantages they believe will follow the use of the Brace; while other letters from strangers of different States of the Union have been received, since the issu-

ance of the patent was published in the Scientific American, enquiring where Braces can be procured in quantities. These endorsements and enquiries encourage me to believe that the invention would prove a great success, if I had time and means to devote to its development in some great center of trade, where suitable materials and mechanical talent for perfecting the Brace could be had at reasonable prices. The simplicity of the invention warrants me in saying that there are few discoveries requiring so *little time and means* for development as this; but, unfortunately, I have *none* of either to spare, and very few of my imperfect Braces to furnish enquirers who have opportunities of making tests. Consequently, I apprehend that considerable time will expire before my invention is brought into common use.

So anxious am I to be prepared with a supply of perfect Braces for sale and distribution to all quarters, in time for the next winter, that I will make a very favorable arrangement with any one who may have sufficient confidence to furnish the small means necessary for introducing the invention to the public in some great emporium of trade. All that I deem necessary is to have five hundred or one thousand Braces of different sizes and proper proportions manufactured, and guarantee by advertisement that they will *effectually close the mouth, and compel the nose to perform its proper duty of breathing during sleep, without the slightest injury to the wearer*, and there are few persons who will not intuitively anticipate the numerous advantages likely to flow from such a result; and this anticipation will naturally induce sufferers to try so novel an experiment, attended with so trifling an outlay. Among the numerous experimenters there will, doubtless, be many who will lack the patience and perseverance requisite to discover the gradual improvement in health and comfort consequent on the use of the Brace. But I am confident a sufficient number will gratefully testify to its merits for a favorable introduction to the public; and the testimonials will increase with its increased use, until all its capacities are as well known as the numerous other discoveries and inventions which were at first ridiculed and afterwards adopted by acclamation.

In glancing over my remarks I find that I have indulged in some reiterations, which might have been avoided by condensing

each subject under a separate head. I hope my inexperience in treating of such subjects will be received as an apology, and my ignorance of medical phraseology will excuse the errors I may have committed.

F. PINCKARD.

P. S. I will send copies of this pamphlet to a few physicians with whom I am acquainted, and others who may be recommended by mutual friends. If any of these shall feel disposed to make a trial of my invention, it will afford me great pleasure to render them any aid or information in my power, if they will take the trouble to address themselves to

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EXTRACTS.

[*From Hall's Journal of Health.*]

POSITION IN SLEEPING.—It is better to go to sleep on the right side, for then the stomach is very much in the position of a bottle turned upside down, and the contents of it are aided in passing out by gravitation. If one goes to sleep on the left side, the operation of emptying the stomach of its contents is more like drawing water from a well. After going to sleep, let the body take its own position.

If you sleep on your back, especially soon after a hearty meal, the weight of all the digestive organs and that of the food resting on the great vein of the body, near the backbone, compresses it, and arrests the flow of the blood more or less. If the arrest is partial, the sleep is disturbed, and there are unpleasant dreams. If the meal has been recent and hearty, the arrest is more decided; and the various sensations, such as falling over a precipice, or the pursuit of a wild beast, or other impending dangers, and the desperate effort to get rid of it, arouses us, and sends on the stagnating blood; and we awake in a fright or trembling, or in a perspiration, or feeling exhausted, according to the degree of stagnation, and the length and strength of the efforts to escape the danger.

But when we are unable to escape the danger—when we do fall over the precipice, when the trembling building crushes us—what then? That is death! That is the death of those of whom it is said, when found lifeless in the morning, “that they were as well as ever they were the day before;” and often it is added, “and ate heartier than common!” This last, as a frequent cause of death to those who have gone to bed to wake no more, we give merely as a private opinion.

[*From the “Scientific American” of January 16th, '69.*]

Most people have little idea of what the air we breathe contains. This ocean of mixed oxygen and nitrogen at the bottom of which we mortals flounder about, contains more than is dreamed of in their philosophy. The old spelling book exercises, “Birds live in the air.” “Fish live in the sea,”

would be the substance of their replies, if questioned as to the living things which inhabit air and ocean. But the air is the home of immense numbers of living things which the unaided eye cannot perceive, as well as the feathered and insect races. This vital fluid, without which we cannot ordinarily live five minutes, is literally crowded with life, life in an embryotic state it is true, but none the less life on that account.

* * * * *

The air has been ascertained to be full of germs, which, blown about by winds, lodged in crevices of stones in high buildings and tall cliffs, taken into the stomachs of animals with their food or inhaled with their breath, beaten to the earth with rains to rise again in the form of impalpable dust, at length find a proper nidus in which they speedily develope into maturity.

Some of these when breathed or otherwise taken into the system pass into the blood and produce disease. A large class of diseases are now attributed to this cause. Among them is the "Fever and Ague," the pestilence of new and low lands. This disease has lately been attributed by good authority to the presence of microscopic algae in the blood.

So plentiful are these germs existing in innumerable forms and variety in the atmosphere, that Dr's. Smith and Dancer, of Manchester, England, found that there was a quarter of a million spores in a single drop of distilled water which had been agitated in contact with the common air of that locality in a bottle. What myriads upon myriads of these tiny beings must be precipitated upon the earth during a storm of rain.

The microscope, that "wonderful eye which science has bestowed upon mankind" reveals to us these curious facts; and what its ultimate effect upon the science at large and medicine in particular, is to be, it is impossible to predict. The telescope is penetrating deeper and deeper into the celestial vault, and constantly telling us new wonders of the starry universe. The microscope on the contrary is dragging to light minute existences that have lain hidden for ages, and is tracing their influences upon the health of mankind. The army of workers with this most fascinating and instructive instrument is daily increasing, and a flood of light is beginning to pour upon many things hitherto most mysterious.

[From the Examiner.]

"KEEP YOUR MOUTH SHUT."—"He that shutteth his lips is a man of understanding," says wise King Solomon, a proverb that is true in more senses than one.

Several years ago, Mr. Catlin, the Indian explorer, published a little book under the title "Keep Your Mouth Shut" designed to warn people against the danger of breathing through the mouth, instead of through the natural channels of respiration, the nostrils. The suggestions it contained were valuable, and ought to be kept constantly in mind by a people so appallingly prone to consumptive disorders as ours.

The advice is always in season, and particularly so when the "chilling wind" of winter, in our damp, constantly varying climate, invite affections of the throat and lungs. The direct inhalation of "raw air" by the delicate organs of breath, especially if they are already slightly disordered, is exceeding deleterious, irritating their sensitive lining, and opening the way to serious complications. To guard against this, Providence has furnished the mouth with two of the completest "mufflers" imaginable. No wrapping of tippets or kerchiefs can so effectually close the mouth against the outer air as the lips God has placed at the entrance of it.

The philosophy of breathing through the nostrils instead of the mouth is simply this: The mouth is a capacious orifice, and offers no obstruction to the passage into the lungs of air laden with impurities, while the nostrils affords a passage long, narrow, lined with sentinel hairs, and able by the sense of smell to detect bad air by its offensive odor. Thus in the nostril all the conditions of

healthful breathing are provided—its narrowness and length allowing the chill of the air to be removed, its hair stopping the ingress or impurities, and its sense of smell giving warning of unhealthy vapors.

As a piece of advice in season, then, we repeat the admonition, "keep your mouth shut."